

DIGITAL MINIMALLY INVASIVE SURGERY SYSTEM

Abstract of the Disclosure

A software-integrated disposable kit (20) contains a series of sterile packages which hold instrumented surgical tools (26, 28, 30), accessories (42, 44, 46) which are implanted or used during surgery, peripherals (40) e.g., mouse, keyboard, etc., for a user input control (34) for controlling a computer (10), markers (32) which are tracked by a tracking system (16), all in sterile condition, and a one time use digital medium (50). When image guided surgery is to be performed, the digital medium is inserted into the computer (10) and the user interface is displayed. The digital medium stores a portion of the software which, in combination with software on the computer, provides all of the software necessary for full user functionality, which includes display of selected diagnostic image information, tracking of the instrumented surgical instruments, and superimposition of the virtual representations of the surgical tools on the images, descriptions, specifications and characteristics of the specific surgical tools in the kit, and 3D virtual representations or images of the instrumented tools for wireframe or rendered display of the surgical tools (14). At the end of a surgical procedure, the digital medium is deactivated or encrypted (80). The digital medium and the used surgical tools are then disposed of without reuse. The system allows the user to save relevant information obtained from the surgery e.g., images, notes, etc. on the digital medium which is encrypted against reuse and archived.